

52. *Cure of Popliteal Aneurism by Compression.*—The *Dublin Quarterly Journal of Medical Science*, for August last, contains some very interesting observations by the Editor on the history of the cure of popliteal aneurism by compression. We extract from it the following tabulated arrangement of all the cases of femoral and popliteal aneurisms which have been treated by pressure on the femoral artery in Great Britain and Ireland, with some remarks on the table and the general conclusions of the author.

No.	Date.	Surgeon.	Locality.	Description of Aneurism.	Age of Patient.	Result.
1	1820	Mr. Todd,	Dublin,	Popliteal,	30	Fem. art. tied.
2	"	"	"	"	27	"
3	1825	"	"	"	36	Cured.
4	1824	Mr. Duggan,	"	Femoral,	33	"
5	1826	Mr. Cusack,	"	Popliteal,	—	Fem. art. tied.
6	1843	"	"	"	55	Cured.
7	1844	"	"	"	26	"
8	1846	"	"	"	33	"
9	1830	Sir P. Crampton,	"	Femoral,	36	"
10	1842	Mr. Hutton,	"	Popliteal,	30	"
11	1843	Dr. Bellingham,	"	"	32	"
12	1844	"	"	Femoral,	35	"
13	1846	"	"	Popliteal,	40	Doubtful.
14	1843	Mr. Liston,	London,	Femoral,	30	Cured.
15	1844	"	"	"	53	"
16	1843	Dr. Harrison,	Dublin,	Popliteal,	29	"
17	1844	Mr. Kirby,	"	"	28	"
18	"	Mr. Allen,	Haslar Hospl.	"	32	"
19	"	Mr. Greatrex,	London,	"	27	"
20	"	Mr. Porter,	Dublin,	"	29	"
21	1845	"	"	"	—	"
22	1844	Mr. Jolley,	Torbay,	"	28	"
23	1843	Mr. Harrison,	Bristol,	"	42	Fem. art. tied.
24	1845	Mr. Dartnell,	Chatham,	"	38	Cured.
25	1846	Mr. Mackern,	Litherland,	Femoral,	30	"
26	1845	Mr. Storks,	London,	Popliteal,	32	"
27	1846	"	"	"	24	"
28	1845	Mr. O'Ferrall,	Dublin,	"	32	"
29	1846	"	"	"	37	"

From this table it would appear, that twenty-nine cases of aneurism—six femoral and twenty-three popliteal—have been treated by pressure upon the artery leading to the sac; of which number, nineteen occurred in Dublin; and that in four, the femoral artery was tied, chiefly from want of confidence in pressure, on the part of either surgeon or patient, and that in twenty-five instances this mode of treatment was successful. Mr. Todd's three cases, Sir Philip Crampton's case, Mr. Duggan's case, Mr. Cusack's case in 1826, and also that of Dr. Molloy, and Mr. O'Ferrall's two cases, have not been before introduced into any of the notices or tables of this operation which have appeared in the periodicals. Dr. Bellingham's first two cases occurred in the same individual: his third I have with his own permission, marked doubtful, because the patient died of erysipelas during the process of cure,—the subject of it was originally under the care of Mr. Cusack. Mr. O'Ferrall's cases will appear at length in our November number.

Sir P. Crampton's second case has not been classed in the foregoing table, inasmuch as it was one of accidental hemorrhage in which the pressure was resorted to from unavoidable necessity, and not originally employed as a means of cure; and Mr. Adrian's case, mentioned in the *Medico-Chirurgical Transactions*, has not been sufficiently detailed, to entitle its being placed in the foregoing category. The subject of Mr. Cusack's third case died suddenly of disease of the heart before he left the hospital—this, however, in no wise militates against the applicability of his treatment, even in that individual case. The man died *cured* of his

aneurism, and the subsequent examination of the parts concerned in that disease was of vast importance in the explanation of the mode of cure. The propriety of applying pressure in this case has been questioned, and we think most unjustly. Had the usual operation of tying the artery been resorted to—an operation periling life—in such a case we do think the surgeon would be reprehensible. But it is well known that many persons with diseased hearts and diseased arterial systems, will live for years after the supervention of such; and are these persons to be allowed to die of the bursting of an external aneurism, when a perfectly bloodless procedure (for it is not an operation), and one, as far as we yet know, unaccompanied with any risk; together with rest; the use of the tincture of digitalis; a low regimen; and the preservation of the horizontal position for a fortnight or three weeks, may prolong their lives for years?

In ten instances, local pressure on the aneurismal tumour by means of pads and bandages was used in addition to the pressure by the instrument. We have omitted the column for the "time occupied in the treatment before *bruit* and pulsation had ceased," inserted in Mr. Stork's table, because no fair standard can be at present established, nor any practical deduction drawn from it. The time has varied from ninety-one days to five; but an examination of the published cases, and even of some of those detailed in this paper, will show how irregularly the pressure was applied; and it is quite apparent that its removal at a *particular time*, even for a few minutes, and allowing the flow of blood through the sac again to take place, will undo all that had been before effected. It is, moreover, very possible that in many instances the pressure has been continued far longer than was necessary. Should we not first apply a very moderate degree of pressure, so as to accustom the patient to bear it with comfort, and then gradually increase it to a particular point, when it is possible that the artery may have become accustomed to it, and the collateral circulation become increased; then put it down firmly for a few hours, and the cure may be so far accomplished that further pressure may be unnecessary? We would suggest to those engaged in the treatment of aneurisms by compression, or in the manufacture of instruments to effect that purpose, that an apparatus made sufficiently light and small, so as not to prevent the patient turning in bed, and provided with a number of pads (three at the least), adapted along the course of the artery, so that several points of pressure could be made in succession, would be a great desideratum.

Although we are but in the infancy of this very great improvement, yet from the foregoing observations, as well as what has been already published by others on the subject, the following conclusions may, we think, be drawn:

I. That numerous attempts have been made, during the present century, to cure external aneurisms, popliteal in particular, by means of pressure upon the artery between the sac, and the centre of the circulation; and that various instruments have been contrived to effect this purpose.

II. That by such means, it is more than probable that occasional cures were made.

III. That popliteal aneurism seems the most favourable for the application of pressure.

IV. That to Mr. Todd is due the merit of having first fairly tried, and successfully applied the pressure treatment of popliteal aneurism in these kingdoms.

V. That no permanent position was established for the treatment of aneurism by compression, until the cases treated by Mr. Hutton, Mr. Cusack, and Dr. Bellingham, were brought before the profession at the Surgical Society of Ireland, in 1843.

VI. That up to this period the instruments made to effect the compression were defective, inasmuch as they applied the pressure on but one point.

VII. That the improvement introduced by Dr. Harrison's patient, Hoey, of applying a number of clamps along the course of the artery, has done much to remedy this defect, and has afforded surgeons a very valuable hint on the subject.

VIII. That from the history of cases recorded by Professor Porter and Mr. Cusack, it would appear that it is not necessary completely to arrest the pulsation in the tumour, by pressure on the artery, in order to produce a cure.

IX. That this cure is effected by means of a coagulum formed in the sac, either

by lessening the current of blood flowing through the artery, or by some peculiar power of coagulation imparted to the blood, aided by the contraction of the sac.

X. That in order to effect this coagulation, galvanism has been employed, and appears to hold out hopes of success.

XI. That from dissections we learn, that it is not necessary to obliterate the artery between the point of pressure and the sac, in order to produce this coagulum, and effect a cure.

XII. That pressure has been tried, and produced coagulation, even when applied to the distal side of the sac.

53. *Treatment of certain Aneurisms by Galvano-puncture.*—The *Gazette Médicale de Paris*, (Nos. 38 and 40, for 1846,) contains a memoir on this subject by M. PETREQUIN, of Lyons, who claims the merit of having been the first to suggest this new method of treatment. We copy from the *Monthly Journ. Med. Sci.* (Nov., 1846), an analysis of this memoir.

M. Petrequin gives the following account of his discovery:—The first results of his inquiries, he says, he published on the 25th of October, 1845, in his "*Mélanges de Chirurgie*," and "since then I have not ceased to labour at the subject. Everything was to produce in the plan and in the detail, as it is easy to judge: and I have the satisfaction of seeing that experimental observation has throughout confirmed all my anticipations." He was first led to think of resorting to chemical means for the coagulation of the blood in an aneurismal tumour, by the case of a young man in whom he believed he had detected, by the stethoscope, an aneurism of the ophthalmic artery, the consequence of an injury sustained by falling on his head from a considerable height. Of these chemical means galvanism seemed the only one adapted to such a case as he had under treatment. He knew that electricity had been spoken of in connection with the treatment of aneurism. On inquiry he found that all that had been said on the subject amounted to the following brief sentence, published by MM. Marjolin and P. H. Berard, in 1833:—"It has been suggested that the coagulation of the blood might be effected in the sac by the aid of electricity transmitted into it by needles plunged into the tumour. This idea, which we owe to M. Pravaz, has not hitherto, as far as we know, been carried into execution." M. Petrequin now applied to M. Pravaz himself and learned from him that no trials had been made bearing on this subject, either on man or other animals. M. Petrequin's first trial, in the case of supposed aneurism of the ophthalmic artery, was not successful, and during an intermission of the treatment in M. Petrequin's absence, the young man was suddenly carried off by an attack of fever. Disappointed in this his first experiment, he was almost dissuaded from pursuing the idea further by finding that certain authorities, on reviewing the suggestion of M. Pravaz, had condemned it as totally inadequate. M. Petrequin hence concludes that the whole merit of the operation rests with himself—to which, in the meantime, we willingly give our assent. On the subject of the principles on which the success of the operation must depend, we allow M. Petrequin to speak for himself:—"The analysis of the first case led me to a knowledge of the principal difficulties, and of the resources by which they were to be overcome. Thus, in the first place, it became necessary to abate the force of the circulation in the afferent vessels, without which the clot is liable to be carried away by the current of the blood, as fast as it forms, particularly if the arterial tube be beyond a certain magnitude. In the sac the blood should be, as far as possible, stagnant and motionless; the patient should be recumbent, or seated at perfect rest in an easy-chair.

"To coagulate the blood in an aneurism, it is requisite, not only that the galvanic current should reach the surface of the tumour, and that it should be conveyed to a spot within it, but it is also indispensable that it should be directly transmitted through the blood itself by two opposing points. For this effect I employ steel needles, from seven to eight centimetres long (about three inches), fine and sharp, which may penetrate easily into the sac through the soft parts. There is here a double difficulty to be overcome; in reaching the seat of the disease they burn and cauterize the skin, irritate the nerves and cause unavailing suffering, ecchymosis, and unfavourable inflammatory action. Again they cause trouble by the loss of electricity, which may result in a failure of the operation. It occurred